

Appl. No. 10/605,745
Amdt. dated May 09, 2005
Reply to Office action of January 10, 2005

AMENDMENTS TO THE CLAIMS

1. (currently amended) A method for scaling a digital picture to generate a scaled picture comprising the following steps:
 - 5 (a) scaling a portion of the digital picture instead of the whole digital picture in a first direction;
 - (b) scaling part of the data produced in step (a) in a second direction; and
 - (c) for each different portion in sequence, repeating steps (a) and (b) to form the scaled picture.
- 10 2. (currently amended) The method of claim 1 wherein steps (a) and ~~[[c)]]~~ (b) are performed by using an N-tap filter where N is ~~an even integernatural number a~~ natural number.
- 15 3. (original) The method of claim 1 wherein the first direction is a horizontal direction, and the second direction is a vertical direction.
4. (original) The method of claim 1 wherein the first direction is a vertical direction, and the second direction is a horizontal direction.
- 20 5. (original) The method of claim 1 further comprising step (d): initializing a buffer used for storing the data produced by step (a).
- 25 6. (currently amended) The method of claim 5 wherein step (d) comprises ~~mirroring part of the digital picture scaled in step (a)~~ applying a mirror boundary condition to the buffer.
7. (currently amended) The method of claim 1 further comprising before scaling a last portion of the digital picture in the second direction, ~~mirroring~~ applying a mirror

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boundary condition to part of the digital picture scaled in step (a).

8. (original) The method of claim 1 wherein step (b) is performed by using all of the data produced in step (a).

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9. (currently amended) The method of claim 1 further comprising ~~removing~~ omitting part of the digital picture before performing steps (a) and (b) when a scaling factor is 2^k wherein k is a natural number.

10 10. (currently amended) A method for scaling a digital picture comprising the following steps:

(a) inputting a source picture to a source memory;

(b) providing a first buffer and a second buffer;

(c) determining scaling factors;

15 (d) generating initial data in the first buffer and second buffer;

(e) transferring a portion of data of the digital picture from the source memory to the first buffer, the portion of data having a size in a second direction of L and size in a first direction equal to a corresponding size of the source picture;

20 (f) using $[[a]]$ an L -tap filter to scale the data in the first buffer in $[[a]]$ the first direction and storing the scaled data in the second buffer;

(g) using the L -tap filter to scale the data in the second buffer in $[[a]]$ the second direction and storing the scaled data in a destination memory, the scaled data having a size in the first direction of $2 \cdot L - 1$; $[[\text{and}]]$

25 (h) for each different portion of data in sequence, repeating steps (e) through (g) to form a scaled picture; and

$[[(h)]]$ (i) outputting $[[a]]$ the scaled picture from the destination memory.

11. (cancelled)

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12. (original) The method of claim 10 wherein the first direction is a horizontal direction, and the second direction is a vertical direction.
- 5 13. (original) The method of claim 10 wherein the first direction is a vertical direction, and the second direction is a horizontal direction.
- 10 14. (currently amended) The method of claim 10 wherein step (d) comprises ~~mirroring part of the digital picture~~ applying a mirror boundary condition to the first buffer and filtering initial data in the first buffer to produce the initial data in the second buffer.
- 15 15. (currently amended) The method of claim 10 further comprising before scaling a last portion of the digital picture in the second direction, ~~mirroring~~ applying a mirror boundary condition to part of the digital picture scaled in step (f).
16. (currently amended) The method of claim 10 further wherein step (e) comprises ~~removing~~ omitting transfer of part of the digital picture for down-scaling.